SECTION TABLE OF CONTENTS

DIVISION 06 - WOODS & PLASTICS

SECTION 06100

ROUGH CARPENTRY

SECTION 06100

ROUGH CARPENTRY

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 307	(1994) Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength
ASTM C 518	(1991) Steady-State Heat Flux Measurements and Thermal Transmission Properties By Means of the Heat Flow Meter Apparatus
ASTM C 553	(1992) Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications
ASTM C 578	(1995) Rigid, Cellular Polystyrene Thermal Insulation
ASTM C 612	(1993) Mineral Fiber Block and Board Thermal Insulation
ASTM C 665	(1995) Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing
ASTM D 2898	(1994) Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing
ASTM E 84	(1996a) Surface Burning Characteristics of Building Materials
ASTM E 96	(1995) Water Vapor Transmission of Materials
ASTM E 154	(1988; R 1993) Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover
ASTM F 547	(1977; R 1990) Definitions of Terms Relating to Nails for Use with Wood and Wood-Base Materials

AMERICAN WOOD-PRESERVERS' ASSOCIATION (AWPA)

AWPA C2	(1995) Lumber, Timber, Bridge Ties and Mine Ties - Preservative Treatment by Pressure Processes
AWPA C9	(1995) Plywood - Preservative Treatment by Pressure Processes
AWPA C20	(1993) Structural Lumber Fire-Retardant Pressure Treatment
AWPA C27	(1993) Plywood - Fire-Retardant Pressure Treatment
AWPA M4	(1995) Standard for the Care of Preservative-Treated Wood Products
AWPA P5	(1996) Standards for Waterborne Preservatives

CALIFORNIA REDWOOD ASSOCIATION (CRA)

CRA-01	(1997) Standard Specifications for Grades of California Redwood Lumber

FACTORY MUTUAL ENGINEERING AND RESEARCH (FM)

FM LPD 1-49	(1995) Loss Prevention Data Sheet - Perimeter Flashing

NATIONAL HARDWOOD LUMBER ASSOCIATION (NHLA)

NHLA-01	(1994) Rules for the Measurement & Inspection of Hardwood & Cypress

NORTHEASTERN LUMBER MANUFACTURERS ASSOCIATION (NELMA)

NELMA-01	(1997) Standard Grading Rules for Northeastern Lumber

SOUTHERN CYPRESS MANUFACTURERS ASSOCIATION (SCMA)

SCMA-01	(1986; Supple No. 1, Aug 1993) Standard Specifications for Grades of Southern Cypress

SOUTHERN PINE INSPECTION BUREAU (SPIB)

SPIB 1003	(1994; Supple 8 thru 11) Standard Grading Rules for Southern Pine Lumber

WEST COAST LUMBER INSPECTION BUREAU (WCLIB)

WCLIB Std 17	(1996; Supples VII(A-E), VIII(A-C)) Grading Rules for West Coast Lumber

WESTERN WOOD PRODUCTS ASSOCIATION (WWPA)

WWPA-01 (1995; Supple Nos. 1 thru 5) Western Lumber Grading Rules 95

1.2 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Data

Insulation and Accessories; FIO

Manufacturer’s descriptive data, catalog cuts, and installation instructions.

SD-04 Drawings

Nailers and Nailing Strips; FIO.

Drawings of field erection details, including materials and methods of fastening nailers in conformance with Factory Mutual wind uplift rated systems specified in other Sections of these specifications.

SD-13 Certificates

Grading and Marking; FIO.

Manufacturer’s certificates (approved by an American Lumber Standards approved agency) attesting that lumber and material not normally grade marked meet the specified requirements. Certificate of Inspection for grade marked material by an American Lumber Standards Committee (ALSC) recognized inspection agency prior to shipment.

Insulation; FIO.

Certificate attesting that the glass and mineral fiber or polyurethane insulation furnished for the project contains recovered material, and showing an estimated percent of such recovered material.

1.3 DELIVERY AND STORAGE

Materials shall be delivered to the site in undamaged condition, stored off ground in fully covered, well ventilated areas, and protected from extreme changes in temperature and humidity.

PART 2 PRODUCTS

2.1 LUMBER AND SHEATHING

2.1.1 Grading and Marking

2.1.1.1 Lumber Products

Solid sawn and finger-jointed lumber shall bear an authorized gradestamp or grademark recognized by ALSC, or an ALSC recognized certification stamp, mark, or hammerbrand. Surfaces that are to be exposed to view shall not

bear grademarks, stamps, or any type of identifying mark. Hammer marking will be permitted on timbers when all surfaces will be exposed to view.

2.1.1.2 Plywood and Other Sheathing Products

Materials shall bear the grademark or other identifying marks indicating grades of material and rules or standards under which produced, including requirements for qualifications and authority of the inspection organization. Except for plywood and structural-use panels, bundle marking will be permitted in lieu of marking each individual piece. Surfaces that are to be exposed to view shall not bear grademarks or other types of identifying marks.

2.1.2 Sizes

Lumber and material sizes shall conform to requirements of the rules or standards under which produced. Unless otherwise specified, lumber shall be surfaced on four sides. Unless otherwise specified, sizes indicated are nominal sizes, and actual sizes shall be within manufacturing tolerances allowed by the standard under which the product is produced.

2.1.3 Treatment

Exposed areas of treated wood that are cut or drilled after treatment shall receive a field treatment in accordance with AWPA M4. Items of all-heart material of cedar, cypress, or redwood will not require preservative treatment, except when in direct contact with soil. Except as specified for all-heart material of the previously mentioned species, the following items shall be treated:

a. Wood members in contact with or within 455 mm of soil.

b. Wood members in contact with water.

c. Wood members exposed to the weather including those used in roofing systems.

d. Wood members in contact with concrete that is in contact with soil or water or that is exposed to weather.

2.1.3.1 Lumber and Timbers

Lumber and timbers shall be treated in accordance with AWPA C2 with waterborne preservatives listed in AWPA P5 to a retention level as follows:

a. 4 kg per cubic meter (0.25 pcf) intended for above ground use.

2.1.3.2 Plywood

Plywood shall be treated in accordance with AWPA C9 with waterborne preservatives listed in AWPA P5 to a retention level as follows:

a. 4 kg per cubic meter (0.25 pcf) intended for above ground use.

2.1.4 Moisture Content

At the time lumber and other materials are delivered and when installed in the work their moisture content shall be as follows:

a. Treated and Untreated Lumber Except Roof Planking: 100 mm or less, nominal thickness, 19 percent maximum.

b. Materials Other Than Lumber: In accordance with standard under which product is produced.

2.1.5 Fire-Retardant Treatment

Fire-retardant treated wood shall be pressure treated in accordance with AWPA C20 for lumber and AWPA C27 for plywood. Material use shall be defined in AWPA C20 and AWPA C27 for Interior Type A and Exterior Type. Treatment and performance inspection shall be by an independent and qualified testing agency that establishes performance ratings. Each piece or bundle of treated material shall bear identification of the testing agency to indicate performance in accordance with such rating. Treated materials to be exposed to rain wetting shall be subjected to an accelerated weathering technique in accordance with ASTM D 2898 prior to being tested for compliance with AWPA C20 or AWPA C27. Items to be treated include: Concealed nailers and blocking, except at roofing; plywood mounting panels for telephone, data, and communications equipment..

2.1.6 Miscellaneous Wood Members

2.1.6.1 Nonstress Graded Members

Members shall include furring, and nailing strips. Members shall be in accordance with TABLE I for the species used. Sizes shall be as follows unless otherwise shown:

Member	Size mm
Furring	25 x 75
Nailing strips	25 x 75 or 25 x 100 when used as shingle base or interior finish, otherwise 50 mm stock.

2.2 ACCESSORIES AND NAILS

Markings shall identify both the strength grade and the manufacturer. Accessories and nails shall conform to the following:

2.2.1 Anchor Bolts

ASTM A 307, size as indicated, complete with nuts and washers.

2.2.2 Bolts: Lag, Toggle, and Miscellaneous Bolts and Screws

Type, size, and finish best suited for intended use. Finish options include zinc compounds, cadmium, and aluminum paint impregnated finishes.

2.2.3 Expansion Shields

Type and size best suited for intended use.

2.2.4 Nails

ASTM F 547, size and type best suited for purpose. For sheathing, length

of nails shall be sufficient to extend 25 mm into supports. In general, 8-penny or larger nails shall be used for nailing through 25 mm thick lumber; 16-penny or larger nails shall be used for nailing through 50 mm thick lumber. Nails used with treated lumber and sheathing shall be galvanized. Nailing shall be in accordance with the recommended nailing schedule contained in AF&PA T11-WCD1. Where detailed nailing requirements are not specified, nail size and spacing shall be sufficient to develop an adequate strength for the connection. The connection's strength shall be verified against the nail capacity tables in AF&PA T901. Reasonable judgement backed by experience shall ensure that the designed connection will not cause the wood to split. If a load situation exceeds a reasonable limit for nails, a specialized connector shall be used.

2.3 INSULATION

Thermal resistance of insulation shall be not less than the R-values shown. R-values shall be determined at 24 degrees C in accordance with ASTM C 518. Insulation shall contain the highest practicable percentage of recovered material which has been recovered or diverted from solid waste, but not including material reused in a manufacturing process. Where two materials have the same price and performance, the one containing the higher recovered material content shall be provided. Insulation shall be the standard product of a manufacturer and factory marked or identified with manufacturer's name or trademark and R-value. Identification shall be on individual pieces or individual packages. Materials containing asbestos will not be allowed.

2.3.1 Batt or Blanket

2.3.1.1 Glass Fiber Batts and Rolls

Glass fiber batts and rolls shall conform to ASTM C 665, Type I unfaced insulation, having a UL rating of 25 and a smoke developed rating of 150 or less when tested in accordance with ASTM E 84.

2.3.1.2 Mineral Fiber Batt

Mineral fiber batt shall conform to ASTM C 665, Type I unfaced insulation.

2.3.1.3 Mineral Fiber Blanket

Mineral fiber blanket shall conform to ASTM C 553, Type I, Class 6. Blankets shall be sized to suit construction conditions, resilient type for use below and above ambient temperature to 195 degrees C. Nominal density shall be 12 kg per cubic meter.

2.3.1.4 Acoustical Batt or Blanket Insulation

ASTM C 665, Mineral fiber, Type I unfaced insulation, width as required for steel construction.

2.3.2 Rigid Insulation

2.3.2.1 Polystyrene Board

Polystyrene board shall be extruded and conform to ASTM C 578, Type IV. Width and length shall suit construction conditions.

2.3.2.2 Glass Fiber or Insulation Board

Glass fiber or insulation board shall conform to ASTM C 612, Type 1A with a nondusting, nonshedding mat or membrane on the exposed side and with a minimum recovered material content of 6 percent by weight of glass fiber core material. Width and length shall suite construction conditions.

2.4 VAPOR RETARDER

Vapor retarder shall be polyethylene sheeting conforming to ASTM E 154 or other equivalent material. Vapor retarder shall have a maximum vapor permeance rating of 29 ng per Pa per second per square meter (0.5 perms) as determined in accordance with ASTM E 96, unless otherwise specified.

PART 3 EXECUTION

3.1 INSTALLATION

3.1.1 General

Members shall be closely fitted, accurately set to required lines and levels, and rigidly secured in place.

3.2 INSTALLATION OF MISCELLANEOUS WOOD MEMBERS

3.2.1 Blocking

Blocking shall be provided as necessary for application of building items.

3.2.2 Nailers and Nailing Strips

Nailers and nailing strips shall be provided as necessary for the attachment of finish materials. Nailers used in conjunction with roof deck installation shall be installed flush with the roof deck system. Stacked nailers shall be assembled with spikes or nails spaced not more than 450 mm on center and staggered. Beginning and ending nails shall not be more than 150 mm for nailer end. Ends of stacked nailers shall be offset approximately 300 mm in long runs and alternated at corners. Anchors shall extend through the entire thickness of the nailer. Strips shall be run in lengths as long as practicable, butt jointed, cut into wood framing members when necessary, and rigidly secured in place. Nailers and nailer installation for Factory Mutual wind uplift rated roof systems specified in other Sections of these specifications shall conform to the recommendations contained in FM LPD 1-49.

3.2.3 Furring Strips

Furring strips shall be provided at the locations shown. Furring strips shall be installed at 400 mm on center unless otherwise shown, run in lengths as long as practicable, butt jointed and rigidly secured in place.

3.3 INSTALLATION OF INSULATION

Insulation shall be installed after construction has advanced to a point that the installed insulation will not be damaged by remaining work. For thermal insulation the actual installed thickness shall provide the thermal resistance shown. For acoustical insulation the installed thickness shall be as shown. Insulation shall be installed on the weather side of such items as electrical boxes and water lines. Unless otherwise specified, installation shall be in accordance with the manufacturer’s recommendation.

Impaling of insulation on spindle or pront-type insulation anchors will not be permitted. Edges of batts or blankets shall be butted tightly together against adjoining blankets and to studs and any obstructions to form a continuous seal.

3.4 INSTALLATION OF VAPOR RETARDER

Vapor retarder shall be applied between insulation and exterior wall (exterior warm side in cooling season). Vapor retarder shall be applied to provide a continuous barrier at window and door frames, and at all penetrations such as electrical outlets and switches, plumbing connections, and utility service penetrations. Joints in the vapor retarder shall be lapped and sealed according to the manufacturer's recommendations.

3.5 INSTALLATION OF AIR INFILTRATION BARRIER

Air infiltration barrier shall be installed in accordance with the manufacturer's recommendations.

TABLE I. SPECIES AND GRADE

Grading Rules	Species	Furring Const Standard	No. 2 Comm	No. 2 Board Comm	No. 3 Comm
NHLA-01					
	Cypress			X	
NELMA-01					
	Northern White Cedar				X
	Eastern White Pine	X			
	Northern Pine	X			
	Balsam Fir				X
	Eastern Hemlock-Tamarack				X
CRA-01					
	Redwood		X		
SCMA-01					
	Cypress			X	
SPIB 1003					
	Southern Pine		X		
WCLIB Std 17					
	Douglas Fir-Larch	X			
	Hem-Fir	X			
	Sitka Spruce	X			
	Mountain Hemlock	X			
	Western Cedar	X			
WWPA-01					
	Douglas Fir-Larch	X			
	Hem-Fir	X			
	Idaho White Pine	X			
	Lodgepole Pine			X	

TABLE I. SPECIES AND GRADE

Grading Rules	Species	Furring Const Standard	Furring No. 2 Comm	Furring No. 2 Board Comm	Furring No. 3 Comm
	Ponderosa Pine			X	
	Sugar Pine			X	
	Englemann Spruce			X	
	Douglas Fir South			X	
	Mountain Hemlock			X	
	Subalpine Fir			X	
	Western Cedar			X	

-- End of Section --

SECTION TABLE OF CONTENTS

DIVISION 06 - WOODS & PLASTICS

SECTION 06410

CUSTOM CASEWORK

-- End of Section Table of Contents --

SECTION 06410

CUSTOM CASEWORK

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ARCHITECTURAL WOODWORK INSTITUTE (AWI)

AWI-02	(1998) Architectural Woodwork Quality Standards, Guide Specifications, and Quality Certification Program, Seventh Edition, Version 1.1

BUILDERS HARDWARE MANUFACTURERS ASSOCIATION (BHMA)

BHMA A156.9	(1988) Cabinet Hardware

HARDWOOD PLYWOOD MANUFACTURERS ASSOCIATION (HPMA)

HPMA HP-1	(1992) Interim Voluntary Standard for Hardwood and Decorative Plywood

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA LD 3	(1991) High-Pressure Decorative Laminates

1.2 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Data

Custom Casework; FIO .

Manufacturer’s catalog data, including standard color charts.

SD-04 Drawings

Custom Casework; FIO .

Drawings shall show each type of casework, counters, cabinets, and related

items, and shall clearly indicate the complete layout of the cabinets and accessories, and pertinent details of construction, fabrication and attachments.

SD-06 Instructions

Custom Casework; FIO .

Manufacturer’s instructions shall include assembling, installation, finishing, and maintenance instructions.

SD-14 Samples

Custom Casework; GA .

Plastic Laminate; GA .

Samples shall be submitted with the drawings. In lieu of individual samples, complete minimum size casework may be furnished as samples. Mock-up units are not acceptable. Samples shall include the following items:

a. Door and drawer fronts - one of each type, with hardware mounted.

b. Countertop and backsplash - one section, 102 mm wide, containing both.

c. Plastic laminate color samples, 75 by 152 mm .

1.3 DELIVERY, HANDLING, AND STORAGE

The Contractor shall protect materials from damage during delivery, when stored, and during construction. Damaged and defective materials shall be removed and replaced with new. Cabinet work shall be constructed, or delivered and brought into the building, only after the building has dried out, following the installation of wet materials, and when there is no danger of damage to materials due to excessive moisture. Mill-fabricated cabinets and casework shall be delivered to the project unsealed and ready to receive the specified finish , or with a factory-applied durable finish .

PART 2 PRODUCTS

2.1 GENERAL REQUIREMENTS

Casework, including cabinets and counters, shall be flush overlay design and shall be custom built at a mill. Casework shall be custom grade, and unless otherwise specified, shall be built to the quality standards specified in AWI-02 for cabinets and casework. Design shall be as indicated on the drawings. Casework in control tower cab, including edges, shall be covered with shop-applied plastic laminate as indicated on drawings. Elsewhere casework to be stained transparent finished hardwood.

2.1.1 Plywood

Hardwood plywood shall meet or exceed the requirements of HPMA HP-1. Plywood shall be of specified thickness with face-veneer on both sides. Veneers shall meet or exceed the requirements of HPMA HP-1, Grade A, and be Type II bonded to the core with water-resistant adhesives. Face veneer for natural or transparent finish shall be Red Oak species , rift cut with no

sapwood allowed. Plywood core shall be hardwood or softwood veneer core type. Exposed edges shall receive factory installed hardwood edges, same species as the face veneer..

2.1.2 Construction

Construction shall be plumb, square, and true; accurately milled and fabricated to details with clean-cut profiles and lines. Accurately size the cabinets, counters, and casework to the indicated dimensions. Surfaces shall be flat, true, free of planer marks or other mars, and smoothly sanded. Select best wood pieces with most uniform grain and color for exposed surfaces. Where possible, conceal fastenings; where not possible, locate fastenings in inconspicuous places. Where nailing is permitted on exterior exposed faces, conceal nailheads. Do not fasten with exposed nails in hardwood. Mortise, tenon, spline, house, joint, block, nail, screw, glue, or bolt together, as approved, in manner to provide rigidity, to avoid swelling or shrinking, and to insure work to remain in place without warping, splitting, and opening of joints. Furnish and securely install cleats, nailers, strips, blocking, hangers, anchors, moldings, and the like, required to neatly and securely install cabinets, counters, and casework.

2.1.2.1 Counter and Cabinet Bases

Bases shall be constructed of 50 mm thick wood framing, members cut to fit, with toe space of the indicated height and depth. Cross rails shall be provided at cabinet ends, points of concentrated loads, and intervals not to exceed 610 mm .

2.1.2.2 Doors and Drawer Fronts

Door design shall be solid flush face . Flush doors shall be hardwood plywood with matching solid
hardwood edges. Lipped doors shall be hardwood plywood with lumber core. Drawer fronts shall be at least 20 mm thick
solid wood or edge-banded hardwood plywood with veneer species to match cabinet. Doors and drawer fronts, including edges, shall be covered with shop-applied plastic laminate.

2.1.2.3 Countertops and Backsplashes

Countertops and backsplashes shall be constructed of plywood, Grade B-D or better, and covered with shop-applied plastic laminate. Countertops shall be at least 20 mm thick. Backsplash shall be plywood, Grade B-D or better, 20 mm thick. Unless otherwise indicated, backsplashes shall be not less than 90 mm high.

2.1.3 Fasteners and Adhesives

2.1.3.1 Nails

Nails shall be steel casing nails with flat countersunk cupped head and diamond point.

2.1.3.2 Adhesives

Adhesives shall be moisture- and mold-resistant. Adhesive shall also be contact type for adhering plastic laminate sheets.

2.1.3.3 Wood Screws

Wood screws shall be carbon steel or brass. Wood screws exposed to view shall be brass with an oval head with cross recess drive.

2.2 CABINET HARDWARE

Cabinet finish hardware shall conform to the types and styles of BHMA A156.9. Screws and attachments shall be finished to match the hardware item. Finishes shall be 652 for hardware items having a base metal of steel, 626 for hardware items having a base metal of bronze or brass, 628 for hardware items having a base metal of aluminum, and 630 for items having a base metal of stainless steel.

2.2.1 Shelf Supports

2.2.1.1 Flush-Applied Supports

Flush-applied, adjustable shelf supports shall be B24071, wrought brass, nickel plated with 13 mm increment adjustment slots and with provision for screw fastening 152 mm on vertical center.

2.2.1.2 Shelf Rests

Shelf rests shall be Type B24081, wrought brass, nickel plated. Rests shall have a minimum projection of 20 mm and a minimum width of 14 mm .

2.2.2 Cabinet Hinges

Cabinet hinges shall be wrought steel or brass, designated size and finish and shall conform to BHMA A156.9, as follows:

Semi-concealed hinges B81511 shall be 5-knuckle, button tip.

Continuous hinges shall be B81491, wrought steel, chrome plated, 0.8 mm thick with 2.3 mm steel pin, countersunk screw holes 50 mm on center, width when open, 27 mm.

2.2.3 Cabinet Catches

Cabinet catches shall be B43142, magnetic catches, aluminum case, minimum 1.8-kg pull.

2.2.4 Pulls

Door and drawer pulls shall be wire pulls, 100 mm centers, 38 mm deep and 8 mm in diameter screw attached from inside of door or drawer.

2.2.5 Drawer Slides

Drawer slides shall be epoxy coated, B85051, ball bearing full extension drawer slides for attachment to each side of drawer. Rubber stops shall be provided at striking points.

2.3 PLASTIC LAMINATES

2.3.1 Countertops, Casework, Edges, and Backsplashes

Countertop surface, casework, edge, and backsplash shall be covered with

high-pressure plastic laminate, general-purpose type, conforming to NEMA LD 3, Type GP50. Color, pattern, and finish shall be as specified on drawings.

2.3.2 Vertical Surfaces

Plastic laminate surfaces for drawer and counter fronts, exposed-to-view ends, and doors shall be high-pressure plastic laminate, general purpose type, conforming to NEMA LD 3, Type GP38. Color, pattern, and finish shall be as specified on drawings.

2.4 SINK RIMS

Sink rims shall be corrosion resistant steel, clamping type, sized to the sink, and a standard product of a manufacturer regularly producing this type of equipment.

PART 3 EXECUTION

3.1 GENERAL

Casework shall be installed only when temperature and humidity conditions approximate the interior conditions that will exist when the building is occupied. The relative humidity in the building at the time of installation of materials shall be within the limits recommended by the manufacturer. Casework shall be installed level, plumb, and true to line, and shall be attached to the walls or floors with concealed toggle bolts. Countertops, accessories, and hardware shall be installed as indicated. Closure and filler strips and finish moldings shall be provided as required. Make neat, close-fitting cut-outs for indicated sinks, plumbing, and other items projecting through tops. Carefully locate cut-outs for pipes so that edges of holes will be covered by escutcheons. The inner edge of sink cut-outs shall be painted with a coat of semigloss enamel paint; sink flanges shall be set in a bed of sealants. Prior to final acceptance, the Contractor shall aline all doors, adjust all hardware, and leave cabinets in a clean and neat condition.

3.1.1 Counters

Conceal fastenings where practicable, fit the counter neatly, install in a rigid and substantial manner, and scribe to adjoining surfaces. Provide counter sections in the longest lengths practicable; keep joints in tops to a minimum; and where joints are necessary, provide tight hairline joints drawn up with concealed-type heavy pull-up bolts. Glue joints with water-resistant glue and, in addition, make rigid and substantial with screws, bolts, or other approved fastenings.

3.1.2 Nailing

Exposed nailing shall be countersunk finishing nails; the countersunk holes shall be filled with a matching wood filler or putty. Staples shall not be permitted in exposed cabinet or casework.

3.1.3 Finishing

Exposed wood surfaces shall be machine sanded at the mill to the specified standard and then shall receive a final sanding at the site to a smooth clean finish, free of machine or tool marks, abrasions, raised grain, or similar imperfections.

3.2 APPLICATION OF PLASTIC LAMINATE

Plastic laminate shall be a continuous sheet of the longest length practicable. Joints in the surface sheeting shall be tight and flush, and held to a practical minimum number. Apply with contact type adhesive, type as recommended by the manufacturer of the laminate, applied to both surfaces. The edging and trim shall consist of strips of laminate cut and fitted to all exposed edges with approved contact adhesive. Exposed edges shall be rounded to 0.8 mm radius. -- End of Section --